# REMARKS

This amendment and related remarks that follow are intended to place the subject application in condition for allowance. Specifically, Claims 1-4, 10-11, 15-19, 21, 24-25, 28-29, 31, 34 and 58 are amended for the reasons described in the sections to follow. No new matter is introduced as a result of these amendments. In view of the amendments and the following reasoning for allowance, the applicants hereby respectfully request further examination and reconsideration of the subject application.

## 1. Interview Summary

The applicants filed an Applicant Initiated Interview Request Form PTOL-413A in conjunction with their filing of an After Final Response on April 20, 2007. A telephonic interview meeting was subsequently held on May 3, 2007 between the undersigned and Examiners T. T. Tran and B. Huynh, during which the applicants' After Final Response was discussed. During this interview no agreements were reached with respect to the applicant's claims.

## 2. Claim Amendments

The claims were amended as follows:

(a) Independent Claims 1 and 58 were amended to read in part "displaying a graphic data presentation sector in the search results window which comprises a series of shapes representing said cluster subdivisions displayed in the order dictated by the independent variable, wherein each subdivision shape is visually distinguished from the other ~~subdivisions~~ subdivision shapes and has a length ~~along the~~ in the direction of an axis of the independent variable proportional to the number of search results items within ~~that~~ the associated subdivision and a fixed width in the direction perpendicular to the independent variable axis". The significance of this change will be discussed below. Dependent Claims 2-4, 10-11, 15-19, 21, 24-25, 28-29 and 31 were amended to conform to the new language of Claim 1.

(b) Claim 34 was amended to read in part "upon user-selection of the portion of the histogram highlighted by the selection pane encompassing two or more of the bars of the histogram, a new histogram is computed for just those search results items associated with the selected portion of the histogram and displayed in the graphic data presentation sector in lieu of the previously displayed higher-order histogram, thereby effecting a user specified filtering of the search results". The significance of this change will also be discussed below.

No new matter is introduced as a result of any of these amendments.

### 3. Rejection of Claims 1-4, 8, 10, 13-14, 16, 18, 22-23 and 58 Under 35 USC §102(e)

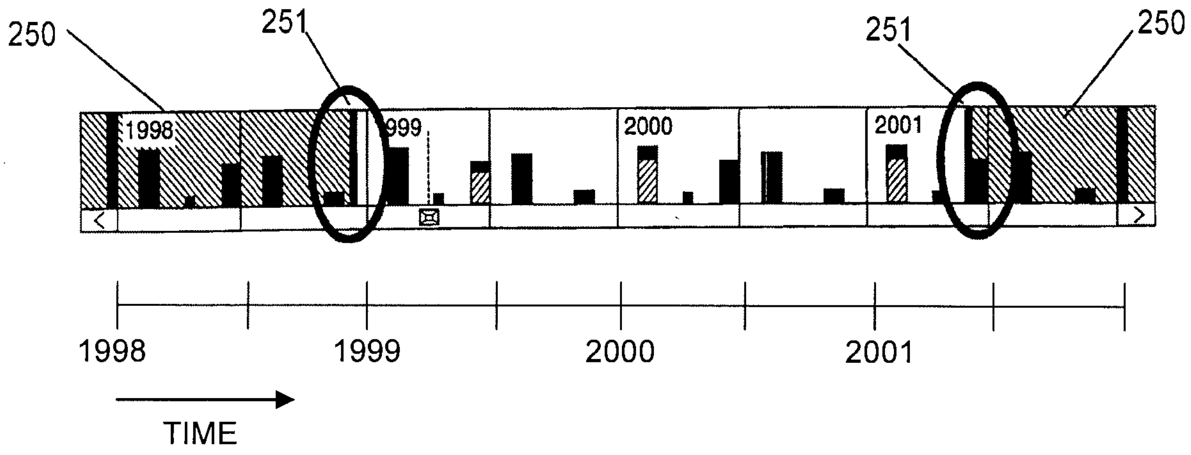
The aforementioned Final Office Action of February 22, 2007 rejected Claims 1-4, 8, 10, 13-14, 16, 18, 22-23 and 58 under 35 USC §102(e) as being anticipated by Rothmuller et al., U.S. Patent Publication No. 2003/0033296 (hereinafter referred to as Rothmuller). The Office Action asserted that Rothmuller discloses each and every element of the applicants' claimed invention. The applicants have amended the claims to overcome this rejection.

The applicants generally claim a process for graphically displaying the results of a standard search, such as a database search, to a user on a display device via an interactive search results window in which the user views and filters search results items. These results can be presented in either a cluster or histogram format, or both. This allows the user to visualize the results graphically, rather than just displaying a list of the items found. In addition the presentation of the search results can be graphically manipulated to easily filter the results as desired by the user. In regard to the cluster format, the rejected claims specifically recite that cluster subdivisions are represented by shapes displayed in the order dictated by the independent variable used in the clustering, and **each subdivision** shape is visually distinguished from the other subdivision shapes and **has a length in the direction of an axis of the independent**

**variable proportional to the number of search results items within the associated subdivision and a fixed width in the direction perpendicular to the independent variable axis**.

The Rothmuller reference, on the other hand, does not teach the proportional subdivision length feature of the rejected claims. Rather, Rothmuller teaches a timeline having timebands, each of which encompasses a particular period of time. This timeline extends horizontally in a time sequence. Vertical bars appear inside the timebands. The length of each bar is representative of how many photographs exist in an associated database, which were captured within the time period represented by the timeband. Thus, Rothmuller teaches clustering of photographs by capture time, and as such the independent variable for the clustering would be time. However, the lengths of the timebands along the Rothmuller timeline are not proportional to the number of photographs falling into each timeband. Instead, the aforementioned vertical bars serve to indicate the number of photographs. **As such the Rothmuller timeline does not have cluster subdivision shapes (as represented in the reference by the timebands) that have lengths in the direction of the axis of the independent variable (as represented by time in the reference) that are proportional to the number of search results items (as represented by photographs in the reference) within that subdivision**. Accordingly, Rothmuller does not teach the claimed proportional subdivision length feature of the rejected claims.

In reply to the foregoing argument proffered by the applicant in response to the first Office Action issued against the present application, the Examiner simply states in the final Office Action that "Rothmuller clearly teaches the subdivision has a length along the independent variable proportional to the number of search result items within the subdivision", and cites Figure 3 of the reference as support. However, as can be seen in the following annotated copy of Rothmuller's Fig. 3:



the timeline is made up of time subdivisions laid out in the horizontal direction as indicated by the added graduated line and arrow. In the Rothmuller case, the subdivisions cover a period starting in the year 1998 and extending through the year 2001. As the Examiner has previously admitted, time is the independent variable in the Rothmuller teachings. **However, as can be seen above, each time subdivision is equal in length in the direction of the time axis and is not proportional to the number of photographs.** It is the vertical bars that represent the number of photographs, and these bars extend perpendicular to the time axis, not on the direction of the axis. **Thus, Rothmuller teaches a display scheme that is exactly the opposite of the claimed process.**

A prima facie case of anticipation is established only when the Examiner can show that the cited reference teaches each of the claimed elements of a rejected claim. In this case, Rothmuller lacks a teaching of the applicants' claimed feature whereby cluster subdivisions are represented by shapes that are displayed in the order dictated by the independent variable used in the clustering, and where **each subdivision shape** is visually distinguished from the other subdivision shapes and **has a length in the direction of an axis of the independent variable proportional to the number of search results items within the associated subdivision and a fixed width in the direction perpendicular to the independent variable axis**. Thus, the rejected claims recite a feature that is not taught in cited art, and as such a prima facie case of anticipation cannot be established. It is, therefore, respectfully requested that the rejection of Claims 1-4, 8, 10, 13-14, 16, 18, 22-23 and 58 be reconsidered based on the novel claim language exemplified in Claim 1:

> "displaying a graphic data presentation sector in the search results window which comprises a series of shapes representing said cluster subdivisions displayed in the order dictated by the independent variable, wherein each subdivision shape is visually distinguished from the other subdivision shapes and has a length in the direction of an axis of the independent variable proportional to the number of search results items within the associated subdivision and a fixed width in the direction perpendicular to the independent variable axis."

### 4. Rejection of Claims 5-7, 9, 11-12, 15, 17, 19, 20-21, 24-27 and 30 Under 35 USC §103(a)

The aforementioned Final Office Action of February 22, 2007 rejected Claims 5-7, 11, 17 and 21 under 35 USC §103(a) as being obvious over Rothmuller in view of Hooper et al., U.S. Patent Publication No. 2005/0044066. Claim 9 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Barros, U.S. Patent No. 7,036,085. Claims 12, 20 and 30 were rejected under 35 USC §103(a) as being obvious over Rothmuller in view of SciFinder Scholar (SciFinder Scholar 2001 User Guide). Claim 15 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Nygaard, U.S. Patent No. 6,760,676. Claim 19 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang et al., (published article, "Visualization Methods for Personal Photo Collections: Browsing and Searching in the PhotFinder"). And finally, Claims 24-27 were rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Wroblewski et al., U.S. Patent No. 5,339,391.

It was contended in the Final Office Action that Rothmuller teaches all the elements of the rejected claims with the exception of various claimed features that were contended to be taught in above cited secondary references. Thus, it was concluded that it would have been obvious to incorporate the teachings of the secondary references into

Rothmuller to produce the applicants' claimed invention. The applicants have amended the claims to overcome this rejection.

As stated previously, Rothmuller lacks a teaching of the applicants' claimed feature whereby cluster subdivisions are represented by shapes that are displayed in the order dictated by the independent variable used in the clustering, and where **each subdivision shape** is visually distinguished from the other subdivision shapes and **has a length in the direction of an axis of the independent variable proportional to the number of search results items within the associated subdivision and a fixed width in the direction perpendicular to the independent variable axis**, as claimed by the applicant in all the aforementioned rejected claims. The Hooper, Barros, SciFinder Scholar, Nygaard , Kang and Wroblewski references also lack such a teaching.

In order to deem the applicant's claimed invention unpatentable under 35 USC §103, a prima facie showing of obviousness must be made. To make a prima facie showing of obviousness, all of the claimed elements of an applicant's invention must be considered, especially when they are missing from the prior art. If a claimed element is not taught in the prior art and has advantages not appreciated by the prior art, then no prima facie case of obviousness exists. The Federal Circuit court has stated that it was error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein (*In Re Fine*, 837 F.2d 107, 5 USPQ2d 1596 (Fed. Cir. 1988)).

In the foregoing cases, the cited combinations lack a teaching of the applicants' aforementioned claimed proportional subdivision length feature. The cited combinations also fail to recognize the advantage of a viewer being to readily ascertain the relative number of search result items found within a cluster subdivision by simply comparing its length to the other subdivisions. Thus, the applicants have claimed a feature not taught in the cited combinations, and which has advantages not recognized therein. Accordingly, no prima facie case of obviousness can be established in accordance with the holding of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claims are patentable under 35 USC §103(a). It is, therefore, respectfully requested that the rejection of Claims 5-7, 9, 11-12, 15, 17, 19, 20-21, 24-27 and 30 be reconsidered based on the previously-quoted non-obvious claim language.

## 5. Rejection of Claims 34-36, 39, 41-42, 44-45, 49 and 52-57 Under 35 USC §103(a)

The aforementioned Final Office Action of February 22, 2007 rejected Claims 34-36, 39, 41-42, 44-45, 49 and 52-57 under 35 USC §103(a) as being obvious over Rothmuller in view of Kang. It was contended in the Office Action that Rothmuller teaches all the elements of the rejected claims with the exception of various claimed features that were contended to be taught in Kang. Thus, it was concluded that it would have been obvious to incorporate the teachings of Kang into Rothmuller to produce the applicants' claimed invention. The applicants have amended the claims to overcome this rejection.

As stated previously, the applicant generally claims a process for graphically displaying the results of a standard search, such as a database search, to a user on a display device via an interactive search results window in which the user views and filters search results items. These results can be presented in either a cluster or histogram format, or both. This allows the user to visualize the results graphically, rather than just displaying a list of the items found. In addition the presentation of the search results can be graphically manipulated to easily filter the results as desired by the user. **In regard to the histogram format, the rejected claims specifically recite that upon user-selection of the portion of the histogram highlighted by a selection pane encompassing two or more of the bars of the histogram, a new histogram is computed for just those search results items associated with the selected portion of the histogram. The new histogram is then displayed in the graphic data presentation sector in lieu of the previously displayed higher-order histogram**.

It was stated in the Final Office Action that while Rothmuller does not teach the foregoing re-histogramming feature, it is taught in Kang. Specifically, it was contended the feature is taught on page 1541, left column, lines 8-18 in that clicking on an individual histogram bar results in only pictures with the selected histogram bar values being shown and the query result histograms being updated to reflect the effect of the query changes. Thus, the Examiner is contending that Kang teaches re-histogramming upon selection of a histogram bar. However, it is the applicants' position that this is not the case. Kang states in the cited section:

> "In PhotoFinder, dynamic queries are also used to enhance the searching capabilities. Query results are updated in real time for previews in the search panel, and the thumbnail browser window is also updated in real time for each query setting change. **Dynamic filtering is made possible by clicking on individual histogram bars to further filter the query results. When this happens, only pictures with that particular histogram bar value will be shown.** In all attribute panels, query result histograms are updated **to reflect the effect of query changes**."

The cited section of Kang actually teaches that when an individual histogram bar is selected, only pictures with that histogram bar value are shown in the thumbnail browser. Nothing else occurs when a histogram bar is selected in Photofinder. This is suppoted by thee following except:

> "The overview window gives users three **filtering mechanisms** to display photo thumbnails: show all hits for the current query (default behavior), show hits for each independent attribute query (if "Show Thumbnail" button is clicked), **and show hits for the corresponding histogram bar (if a histogram bar is clicked and highlighted)**." (page 1539, right column, lines 28-33)

The Examiner attributes the "In all attribute panels, query result histograms are updated to reflect the effect of query changes" sentence in the cited section to the foregoing histogram bar selection feature. However, this is not the case. The latter sentence refers to the feature whereby whenever a query change is made by changing a query setting (e.g., moving the sliders at the bottom of a histogram in one of the attribute panels) the histograms in all the panels are updated to reflect the new query settings. **The key is that the latter sentence recites that a new query setting must be made to effect a change to the histograms**. Selecting a bar of a histogram does not change the query settings. Rather, as cited above, **clicking on individual histogram bars further filters the query results such that only pictures with that particular histogram bar value will be shown.**

Another way of looking at the issue is that if a user selects a histogram bar of a histogram in one of the attribute panels (e.g., the date attribute panel shown in Fig. 2 of the Kang reference), in order to read on the rejected claims, a new histogram would have to be computed and displayed in the date attribute panel for just those search results items associated with the selected bar of the histogram. However, how would this occur since the sliders at the bottom of the histogram dictate the query settings as stated in the Kang reference. Nowhere in the Kang reference does it describe re-histogramming based on criteria not entered using the sliders.

Regardless of the belief that Kang does not teach the applicants' claimed re-histogramming feature, the claims have been amended so as to expedite the allowance of the present application. Specifically, the claims were amended such that **the portion of the histogram highlighted by a selection pane encompasses two or more of the bars**. **It is clear that Kang, no matter how the reference is interpreted, only teaches the selection of a single histogram bar, not two or more bars at the same time.**

As stated previously, in order to deem the applicant's claimed invention unpatentable under 35 USC §103, a prima facie showing of obviousness must be made. To make a prima facie showing of obviousness, all of the claimed elements of an applicant's invention must be considered, especially when they are missing from the prior art. If a claimed element is not taught in the prior art and has advantages not appreciated by the prior art, then no prima facie case of obviousness exists. The Federal Circuit court has stated that it was error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein (*In Re Fine*, 837 F.2d 107, 5 USPQ2d 1596 (Fed. Cir. 1988)).

In this case, the cited combination lacks a teaching of the applicants' claimed re-histogramming feature, now limited to the selection of **two or more of the bars of the histogram**. The cited combination also fails to recognize the advantage of a viewer being to filter results of a search query graphically by selecting a section of the histogram and causing a re-histogramming of the search results in order to narrow the results even further. Thus, the applicants have claimed a feature not taught in the cited combination, and which has advantages not recognized therein. Accordingly, no prima facie case of obviousness can be established in accordance with the holding of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claims are patentable under 35 USC §103(a) over Rothmuller in view of Kang. It is, therefore, respectfully requested that the rejection of Claims 19, 34-36, 39, 41-42, 44-45, 49 and 52-57 be reconsidered based on the non-obvious claim language exemplified in Claim 34:

> "upon user-selection of the portion of the histogram highlighted by the selection pane encompassing two or more of the bars of the histogram, a new histogram is computed for just those search results items associated with the selected portion of the histogram and displayed in the graphic data presentation sector in lieu of the previously displayed higher-order histogram, thereby effecting a user specified filtering of the search results".

## 6. Rejection of Claims 37-38, 40, 43, 46-48 and 50-51 Under 35 USC §103(a)

The aforementioned Final Office Action of February 22, 2007 rejected Claims 37-38 under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of Nygaard. Claim 40 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of the Microsoft Powerpoint® 2000 chart tool. Claim 43 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of SciFinder Scholar. Claims 46-48 were rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of Hooper. Claim 50 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of Barros. And finally, Claim 51 was rejected under 35 USC §103(a) as being obvious over Rothmuller in view of Kang, and in further view of Ubillos, U.S. Patent No. 6,486,896.

It was contended in the Office Action that the Rothmuller-Kang combination teaches all the elements of the rejected claim with the exception of various claimed features that were contended to be taught in above cited third-level references. Thus, it was concluded that it would have been obvious to incorporate the teachings of the third-level references into the Rothmuller-Kang combination to produce the applicants' claimed invention. The applicants have amended the claims to overcome this rejection.

As stated previously, the Rothmuller-Kang combination lacks a teaching of the applicants' claimed feature whereby **upon user-selection of the portion of the histogram highlighted by a selection pane encompassing two or more of the bars of the histogram, a new histogram is computed for just those search results items associated with the selected portion of the histogram**, as claimed by the applicant in all the aforementioned rejected claims. The Nygaard, Microsoft Powerpoint® 2000 chart tool, SciFinder Scholar, Hooper, Barros and Ubillos references also lack such a teaching.

Thus, the cited combinations lack a teaching of the applicants' claimed re-histogramming feature, now limited to the selection of **two or more of the bars of the histogram**. The cited combinations also fail to recognize the aforementioned advantage of this feature. Thus, the applicants have claimed a feature not taught in the cited combinations, and which has advantages not recognized therein. Accordingly, no prima facie case of obviousness can be established in accordance with the holding of *In Re Fine*. This lack of a prima facie showing of obviousness means that the rejected claims are patentable under 35 USC §103(a). It is, therefore, respectfully requested that the rejection of Claims 37-38, 40, 43, 46-48 and 50-51 be reconsidered based on the previously-quoted non-obvious claim language

## 7. Objections To Claims 28-29 and 31-33

In the aforementioned Final Office Action of February 22, 2007, Claims 28-29 and 31-33 were objected to as being dependent upon a rejected base claim. The Examiner stated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The applicants at this time, however, respectfully decline to rewrite these claims because it is the applicants' position that the independent claims from which these claims depend are patentable.

## 8. Summary

In view of the arguments set forth above, the applicants respectfully submit that Claims 1-58 are in condition for allowance as they are novel and nonobvious over the cited art. Accordingly, further examination and reconsideration of these claims is respectfully requested and allowance of at an early date is courteously solicited.

Respectfully submitted,

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